UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/606,418	06/28/2000	James A. Aviani JR.	CISCP143	6077

22434 7590 10/14/2003		EXAMINER
BEYER WEAVER & THOMAS LLP		MASTRACCI, DARYL R

ART UNIT	PAPER NUMBER
2155	

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DATE MAILED: 10/14/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/606,418	Applicant(s) AVIANI ET AL.
	Examiner Daryl Mastracci	Art Unit 2155

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on _28 June 2000_ .

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) _1-47_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) _1-47_ is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on _28 June 2000_ is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.

    If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All b) ☐ Some * c) ☐ None of:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

    a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _2, 3, 4_ .

4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____

FRANTZ B. JEAN
PRIMARY EXAMINER

DETAILED ACTION

Claims 1-47 are pending in this Office Action.

Information Disclosure Statement

The information disclosure statements filed in Paper No. 2, 3, and 4 have been

considered.

Specification

Applicant is reminded of the proper language and format for an abstract of the
disclosure.

The abstract should be in narrative form and generally limited to a single
paragraph on a separate sheet within the range of 50 to 150 words. It is important that
the abstract not exceed 150 words in length since the space provided for the abstract
on the computer tape used by the printer is limited. The form and legal phraseology
often used in patent claims, such as "means" and "said," should be avoided. The
abstract should describe the disclosure sufficiently to assist readers in deciding whether
there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information
given in the title. It should avoid using phrases which can be implied, such as, "The
disclosure concerns," "The disclosure defined by this invention," "The disclosure
describes," etc.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly
claiming the subject matter which the applicant regards as his invention.

Claims 1-4, 13, 15-16, 19-23, 32, 34-35, 38-41, 44-47 are rejected under 35

U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and

distinctly claim the subject matter which applicant regards as the invention.

Where applicant acts as his or her own lexicographer to specifically define a term

of a claim contrary to its ordinary meaning, the written description must clearly redefine

the claim term and set forth the uncommon definition so as to put one reasonably skilled

in the art on notice that the applicant intended to so redefine that claim term. *Process*

Control Corp. v. HydReclaim Corp., 190 F.3d 1350, 1357, 52 USPQ2d 1029, 1033 (Fed.

Cir. 1999). The term "spoof" and variations thereof in claims 1-4, 13, 20-23, 32, 39, 45

is used by the claim to mean "imitate", while the accepted meaning is "faking the

sending address of a transmission in order to gain illegal entry into a secure system."

The accepted meaning of the term "spoof" is related to the security of transmissions,

while the variation used in these claims does not address security issues. The term is

indefinite because the specification does not clearly redefine the term.

The term "encapsulate" and variations thereof in claims 3, 4, 13, 15-16, 19, 22,

23, 32, 34-35, 38, 40, 41, 44, 46, 47 is not clearly defined in the specification. The term

"encapsulate" used in these claims relates only to the packaging of data, while the

accepted meaning of the term is "making the data and processing within the object

private, which allows the internal implementation of the object to be modified without

requiring any change to the application that uses it." In simple terms, the method of

"making the data and performing operations on the data." Applicant does not

incorporate the method of encapsulation, only the packaging of data.

The term "cracking" and variations thereof in claims 4, 13, 16, 23, 32, 41, 47 is

used by the claim to mean "opening," while the accepted meaning is "breaking into a

computer system without authorization, the purpose being to do damage." The

accepted meaning of the term "cracking" is related to a breach of security, while the

variation used in these claims does not address security issues. The term is indefinite

because the specification does not clearly redefine the term.

, Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-2, 5-11, 14, 20-21, 24-30, 33, 39, 45 are rejected under 35

U.S.C. 102(e) as being anticipated by US Patent No. 6,097,882 issued to Mogul.

With respect to claim 1, Mogul teaches a method of facilitating redirection of

traffic between a server and a client to between the client and a nearest replica selected

from a plurality of replicas (Fig. 1; col. 2, lines 61-63), the method comprising: receiving

a packet that is traveling between a client and a server or between the client and a

replica [interpreted as monitoring path between client and server] (col. 3, lines 10-23);

when the received packet is a start packet that is traveling from the client to the server,

altering the start packet to indicate that the start packet should be forwarded to any

replica that duplicates the data content of the server [interpreted as deciding which

replica server should receive the request and rewriting the packet] (col. 3, lines 23-28,

32-36); when the received packet is an acknowledgement packet that is received first,

altering the acknowledgement so that it spoofs the server when the acknowledgement

originates from the replica [interpreted as rewriting the reply packet to appear as if it came directly from the server] (col. 3, lines 37-51); and when the received packet is a subsequent packet received after the start packet and the acknowledgement packet [interpreted as another request or transmission between client and server], altering the subsequent packet so that it spoofs the server when the subsequent packet originates from the replica [interpreted as rewriting the packet to appear as if it came directly from the server] (col. 3, lines 37-51) or altering the subsequent packet so that it goes to the replica when the subsequent packet originates from the client [interpreted as deciding which replica server should receive the packet and rewriting the packet] (col. 3, lines 23-28, 32-36).

With respect to claim 2, Mogul teaches a method as recited in claim 1, wherein the server is spoofed by replacing a source identifier of the received packet with a destination identifier of the start packet [interpreted as rewriting the identifier to appear as if it came directly from the requested server] (col. 3, lines 41-46; col. 4, lines 24-29).

With respect to claim 5, Mogul teaches a method as recited in claim 1, and routing a connection to a replica server (Fig. 1). With respect to the limitation determining that the acknowledgement packet originates from the replica when a source identifier of the acknowledgement packet does not equal a destination identifier of the start packet, Mogul teaches the changing of the destination and port numbers of packets returning from the replica server to the client for the purpose of making the client believe it is communicating directly with the intended server (col. 4, lines 18-29).

This step recited by Mogul cannot be completed without first determining that the source of the packet is the replica server, and is therefore taught by Mogul.

With respect to the limitation determining that the subsequent packet originates from the replica when the source identifier of the subsequent packet does not equal the destination identifier of the start packet, Mogul teaches the changing of the destination and port numbers of packets returning from the replica server to the client for the purpose of making the client believe it is communicating directly with the intended server (col. 4, lines 18-29). This step recited by Mogul cannot be completed without first determining that the source of the packet is the replica server, and is therefore taught by Mogul.

With respect to the limitation determining that the subsequent packet is going to the server when the destination identifier of the subsequent packet equals the destination identifier of the start packet, Mogul teaches the determining of the destination server of a packet, and routing the packet to a replica server (col. 4, lines 13-29). This step recited by Mogul cannot be implemented without first determining the destination of the packet, and is therefore taught by Mogul.

With respect to claim 6, Mogul teaches a method as recited in claim 1, wherein the start packet is altered by adding a tag to or modifying the tag of the start packet to indicate that the start packet should be forwarded to any replica that duplicates data content of the server (col. 3, lines 23-36).

With respect to claim 7, Mogul teaches a method as recited in claim 1, wherein the start packet is only altered when the start packet is associated with web data (col. 3, lines 7-12, 24-27).

With respect to claim 8, Mogul teaches a method as recited in claim 7, wherein the start packet is associated with web data when the start packet has a destination port utilized for accessing web data (Fig. 2; col. 3, lines 7-12).

With respect to claim 9, Mogul teaches a method as recited in claim 1, further comprising: storing a destination identifier of the start packet (col. 3, lines 29-32; col. 4, lines 21-24); and storing and associating a source identifier of the acknowledgement packet with the stored destination identifier of the start packet (col. 3, lines 39-44; col. 4, lines 21-24).

With respect to claim 10, Mogul teaches a method as recited in claim 9, wherein the destination identifier of the start packet and source identifier of the acknowledgement packet are stored and associated as an entry within a table (col. 3, lines 29-32; col. 4, lines 21-24).

With respect to claim 11, Mogul teaches a method as recited in claim 9, wherein the source identifier of the acknowledgement packet is only stored and associated with the destination identifier of the start packet when the source identifier of the acknowledgement packet does not indicate the server [interpreted as storing the destination identifier, not the replica, as the source of the acknowledgement] (col. 3, lines 29-32, 39-44).

With respect to claim 14, Mogul teaches a method as recited in claim 1, further comprising sending a reset to the replica or the server identified as a source of the received packet when the received packet is received subsequently to the acknowledgement packet received first [equated with removing the stored connection association] (col. 3, lines 52-54).

Claim 20 is essentially the same as claim 1, and is rejected on the same basis. Claim 20 recites a computer system comprising the same steps as the method of claim 1. With respect to the additional limitation the computer system comprising: a memory; and a processor coupled to the memory, Mogul explicitly teaches a memory (col. 4, lines 45-51), and inherently teaches a processor coupled to the memory (Fig. 1; col. 2, lines 24-33). It is well known in the art that any computer system contains a processor.

With respect to claim 21, Mogul teaches a computer system as recited in claim 20 wherein the server is spoofed by replacing a source identifier of the received packet with a destination identifier of the start packet [interpreted as rewriting the identifier to appear as if it came directly from the requested server] (col. 3, lines 41-46; col. 4, lines 24-29).

Claim 24 is essentially the same as claim 5, and is rejected on the same basis.

Claim 25 is essentially the same as claim 6, and is rejected on the same basis.

Claim 26 is essentially the same as claim 7, and is rejected on the same basis.

Claim 27 is essentially the same as claim 8, and is rejected on the same basis.

Claim 28 is essentially the same as claim 9, and is rejected on the same basis.

Claim 29 is essentially the same as claim 10, and is rejected on the same basis.

Claim 30 is essentially the same as claim 11, and is rejected on the same basis.

Claim 33 is essentially the same as claim 14, and is rejected on the same basis.

Claim 39 is essentially the same as claim 1, and is rejected on the same basis.

Claim 39 recites a computer program product comprising the same steps as the method

of claim 1. With respect to the additional limitation the computer program product

comprising: at least one computer readable medium; and computer program

instructions stored within the at least one computer readable product, Mogul inherently

teaches this (Fig. 1; col. 2, lines 24-33).

Claim 45 is essentially the same as claim 1, and is rejected on the same basis.

Claim 45 recites an apparatus comprising the same steps as the method of claim 1.

Claims 15-19, 34-38, 40-44, 46, 47 are rejected under 35 U.S.C. 102(e) as being

anticipated by US Patent No. 6,606,315 issued to Albert et al. ("Albert").

With respect to claim 15, Albert teaches a method of facilitating redirection of

traffic between a server and a client to between the client and a selected one from a

plurality of replicas [interpreted as any host/server able to service a client request], the

method comprising: receiving a start packet sent from a client to a server (col. 11, lines

57-60); and when the start packet has a tag indicating that the start packet should be

forwarded to any replica that duplicates the data content of the server, encapsulating

and sending the start packet to each replica associated with the server (col. 11, line 60-

col. 12, line 27).

Claims 34, 40, and 46 are essentially the same as claim 15, and are rejected on

the same basis (col. 4, lines 25-31). Claim 34 recites a computer system comprising

the same steps as the method of claim 15. With respect to the additional limitation the

computer system comprising: a memory; and a processor coupled to the memory,

Albert explicitly teaches a memory (Fig. 2B), and a processor coupled to the memory

(Fig 2B).

Claim 40 recites a computer program product comprising the same steps as the

method of claim 15. With respect to the additional limitation the computer program

product comprising: at least one computer readable medium; and computer program

instructions stored within the at least one computer readable product, Albert explicitly

teaches this (col. 4, lines 25-31).

Claim 46 is essentially the same as claim 15, and is rejected on the same basis.

Claim 46 recites an apparatus comprising the same steps as the method of claim 15.

With respect to claim 16, Albert teaches a method of facilitating redirection of

traffic between a server and a client to between the client and a selected one from a

plurality of replicas, the method comprising: in a replica device [interpreted as any host

able to service a client request], receiving a start packet sent from a client to a server,

the start packet being encapsulated (Fig. 3A; col. 12, lines 15-41); cracking the

encapsulated start packet to determine the client's address (Fig. 3B; col. 12, lines 42-

56); and when the replica device is active and not busy, sending an immediate

acknowledgement packet to the client in response to the received start packet [claim is

interpreted as a host/server receiving the packet and sending an acknowledgement

packet back to client based on client address] (Fig. 3B).

With respect to claim 17, Albert teaches a method as recited in claim 16, wherein the acknowledgement packet has a source identifier that indicates the replica device (col. 12, lines 42-52).

With respect to claim 18, Albert teaches a method as recited in claim 16, wherein the acknowledgement packet has a source identifier that indicates the server [interpreted as virtual machine] (col. 12, lines 56-60).

With respect to claim 19, Albert teaches a method as recited in claim 18, wherein the acknowledgement packet is comprised of a source identifier that indicates the server that is encapsulated with a source identifier that indicates the replica device (Fig. 3B; col. 12, lines 49-60).

Claims 35, 41, and 47 are essentially the same as claim 16, and are rejected on the same basis (col. 4, lines 25-31). Claim 35 recites a computer system comprising the same steps as the method of claim 16. With respect to the additional limitation the computer system comprising: a memory; and a processor coupled to the memory, Albert explicitly teaches a memory (Fig. 2B), and a processor coupled to the memory (Fig 2B).

Claim 36 is essentially the same as claim 17, and is rejected on the same basis.

Claim 37 is essentially the same as claim 18, and is rejected on the same basis.

Claim 38 is essentially the same as claim 19, and is rejected on the same basis.

Claim 41 recites a computer program product comprising the same steps as the method of claim 16. With respect to the additional limitation the computer program product comprising: at least one computer readable medium; and computer program

instructions stored within the at least one computer readable product, Albert explicitly

teaches this (col. 4, lines 25-31).

Claim 42 is essentially the same as claim 17, and is rejected on the same basis.

Claim 43 is essentially the same as claim 18, and is rejected on the same basis.

Claim 44 is essentially the same as claim 19, and is rejected on the same basis.

Claim 47 is essentially the same as claim 16, and is rejected on the same basis.

Claim 47 recites an apparatus comprising the same steps as the method of claim 16.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 3, 4, 13, 22, 23, 32 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Mogul in view of US Patent No. 5,541,911 issued to Nilakantan et al.

("Nilakantan").

With respect to claim 3, Mogul teaches method as recited in claim 1, but does not

explicitly state wherein the server is spoofed by encapsulating the received packet with

a source identifier that equals a destination identifier of the start packet. Nilakantan

teaches packet spoofing (Fig. 3; col. 2, lines 30-33; col. 3, lines 3-6) and encapsulation

(Fig. 5; col. 7, lines 46-50; col. 9, lines 19-28) in network traffic management. It would

have been obvious to a person of ordinary skill in the art at the time of the invention to

incorporate the encapsulation and spoofing of Nilakantan into Mogul. One of ordinary

skill in the art would do this so that the client would believe it is communicating directly with the server addressed by the client. Packets are encapsulated in order to protect or hide ("spoof") data. This is beneficial in reducing the amount of network traffic through a certain WAN link, and is commonly implemented in data routing (col. 4, lines 13-21).

With respect to claim 4, Mogul teaches a method as recited in claim 1, but does not explicitly state wherein the received packet is encapsulated and the server is spoofed by cracking the received packet. Nilakantan teaches packet spoofing (Fig. 3; col. 2, lines 30-33; col. 3, lines 3-6) and decapsulation [cracking]/encapsulation (Fig. 5; col. 7, lines 46-50) in network traffic management. It would have been obvious to a person of ordinary skill in the art at the time of the invention to incorporate the decapsulation and spoofing of Nilakantan into Mogul. One of ordinary skill in the art would do this so that the client would believe it is communicating directly with the server by opening the encapsulated packet and altering the source address. The server would not be able to change the source address of the encapsulated packet without opening ("cracking") it. Spoofing is implemented in data routing so communications between client and server are transparent (col. 4, lines 13-29).

With respect to claim 13, Mogul teaches a method as recited in claim 9, but does not explicitly state further comprising: prior to storing and associating the source identifier of the acknowledgement packet, cracking the acknowledgement packet to obtain the source identifier when the acknowledgement packet has been encapsulated, and wherein the server is spoofed for the acknowledgement by cracking the acknowledgement packet. Nilakantan teaches packet spoofing (Fig. 3; col. 2, lines 30-

33; col. 3, lines 3-6) and decapsulation/encapsulation (Fig. 5; col. 7, lines 46-50; col. 9,

lines 19-28) in network traffic management. It would have been obvious to a person of

ordinary skill in the art at the time of the invention to incorporate the

decapsulation/encapsulation and spoofing of Nilakantan into Mogul. One of ordinary

skill in the art would do this so that the client would believe it is communicating directly

with the server addressed by the client by decapsulating the encapsulated packet and

replacing the source identifier with the original destination identifier. This is beneficial in

transparent data routing, which reduces the amount of network traffic through a certain

WAN link (col. 4, lines 13-29).

Claim 22 is essentially the same as claim 3, and is rejected on the same basis.

Claim 23 is essentially the same as claim 4, and is rejected on the same basis.

Claim 32 is essentially the same as claim 13, and is rejected on the same basis.

Claims 12 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Mogul.

With respect to claim 12, Mogul teaches a method as recited in claim 11, and

changing the destination and port numbers of packets returning from the replica server

to the client for the purpose of making the client believe it is communicating directly with

the intended server (col. 4, lines 18-29). Mogul does not explicitly state further

comprising deleting the destination identifier of the start packet when the source

identifier of the first acknowledgement packet does not indicate the server. However,

Mogul does teach the changing of the destination address (col. 4, lines 18-29), which

can incorporate the deleting of the destination address in order to modify it. It would have been obvious to a person of ordinary skill in the art at the time of the invention to incorporate deleting the destination identifier into Mogul. One of ordinary skill in the art would do this in order to change the destination address of the packet as part of the process of data routing.

Claim 31 is essentially the same as claim 12, and is rejected on the same basis.

Prior Art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US Patent No. 5,423,002 issued to Hart

US Patent No. 5,544,320 issued to Konrad

US Patent No. 5,644,720 issued to Boll et al.

US Patent No. 5,996,016 issued to Thalheimer et al.

US Patent No. 6,006,264 issued to Colby et al.

US Patent No. 6,058,425 issued to White

US Patent No. 6,128,666 issued to Muller et al.

US Patent No. 6,173,312 B1 issued to Atarashi et al.

US Patent No. 6,330,602 B1 issued to Law et al.

Coulouris et al., Distributed Systems Concepts and Design, Second Edition, 1994, Addison-Wesley Publishing Company, p. 199-200
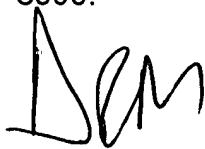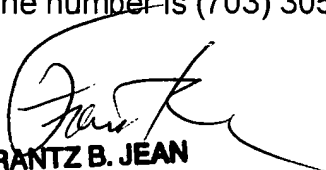
Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daryl Mastracci whose telephone number is (703) 305-0325. The examiner can normally be reached on Monday-Friday (8:30-5).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hosain Alam can be reached on (703) 308-6662. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

FRANTZ B. JEAN
PRIMARY EXAMINER

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September 29, 2003